

Case III

A 65-year-old male patient, resident of Zone II, came with sudden deafness of right ear after 3 days of MIC exposure (6 December). Systemic and ENT examinations were almost normal. There was severe SN hearing loss on the right side – 70-80 db loss. Left ear showed early Presbyacusis. Routine blood/urine/FBS were within normal limits.

He was treated with Tab. Stugeron (Cinnirazine) (25 mg TDS), Tab Prednisone (30 mg) daily in divided doses, tapering in 2 weeks time and injection neurobion on alternate days. He started showing improvement after 10 days though recovery was slow and incomplete after a month's time.

DISCUSSION

There was hardly any study describing the effects of MIC on different systems of the human body until the worst industrial disaster of Bhopal on 3 December 1984. Even after that there was no study conducted related to Otolaryngology. There were cases of temporary cranial and peripheral neuropathies immediately after NEC exposure, the most probable reason being tissue hypoxia.

Although this series of three cases is quite small, but it will definitely give an idea of the toxicology of MIC in relation to Otolaryngology.

CONCLUSION

In conclusion, it can definitely be said that:

- there was involvement of a cranial nerve in each case viz., Facial, Vagus and Acoustic Nerve;
- toxicity of the gas was maximum in 1 km Radius, areas farther than 3 km were minimally affected;
- most of the effects on cranial nerves were temporary and there was almost complete recovery with conservative treatment in all cases, no surgical intervention was required.

Address for Correspondence:

Syed Waseem Akhtar,
Aziz Manzil Compound,
4-Ahmedabad Palace Road,
Bhopal,
Madhya Pradesh, India

ENTEROBIUS VERMICULARIS IN THE NOSE: A RARE ENTITY

Vishnu Kaniyur, Kishore H. Chandra Prasad, P. P. Devan, S. S. Doddamani, Bharati Balachandran, Vikram Kulkarni

ABSTRACT: A rare case of enterobius vermicularis pin-worm is reported in the nose. An 11-year-old girl presented with the vague symptoms of crawling sensation in the nose for few weeks, who had received treatment for allergic rhinitis. The nasal secretions were examined and confirmed the diagnosis of pin-worm infection and treated by albendazole.

Key Words: Enterobiasis, parasitic disease, pinworms, rhinitis

Enterobius vermicularis is a small intestinal helminth. The infection is usually acquired by ingestion of eggs containing third stage larva. The eggs hatch in the upper small intestine and the liberated larvae migrate to the ileocaecal region of the intestine where they develop into adult worms. Anal pruritis is the common symptom particularly at night. Insomnia, restlessness and irritability are the other common symptoms in children. Recovery of the characteristic eggs from the perianal and perineal area is the most reliable means of confirming the diagnosis.

On rare occasions, it migrates outside the intestinal lumen.

Its occurrence in the nose is rare and never reported. One such case is reported herein.

CASE REPORT

An 11-year-old girl presented to our department with vague symptoms of crawling sensation in her nose, nasal itching and nasal discharge since 4 weeks. Crawling sensation was 3-4 times a day during which period she used to bring out small particles from her nose.

A detailed ENT examination did not reveal any significant findings. She was admitted for observation and a sterile bottle

was given to her to put the tiny particles, which she brought out from her nose periodically. [Figure 1] and simultaneously a nasal endoscopy was done and some whitish dots were seen in the anterior part of the septum and lateral wall of nose and were also collected [Figures 2 and 3]. The particles collected by the patient and during nasal endoscopy were sent for microbiological study. A wet mount preparation of the specimen showed numerous eggs and few adult worms of *enterobius vermicularis* [Figure 4].

Repeated stool examination, cellophane smear examination from nasal and perineal mucosa did not show any worms or ova. The blood and urine examinations were within normal limits. There was no eosinophilia.

The patient was given a single 400 mg oral dose of albendazole. The dose was repeated after 15 days. The same treatment was given to entire family members. Instructions were given to boil the inner clothes and blankets of all family

members in order to eliminate the ova. The patient is symptom free for 6 months post-treatment and continues to be on surveillance.

DISCUSSION

Enterobius vermicularis, the pin-worm, which measures approximately 8-13 mm is found in all climates and causes intestinal infection in humans who are the only hosts of it. Ingesting eggs containing third stage larva acquire infection. The eggs hatch in the upper small intestine and the liberated larvae migrate to ileocaecal region of the intestine where they develop into adult worms. Gravid female worms detach from the mucosa and begin migrating down the lumen of the intestine towards anus. At night the gravid females migrate out of the anus, deposit their eggs on the perineal skin and die. The eggs are relatively resistant to drying and may survive as long as 10 days in humid environment.^[1]

The unusual sites, which are affected by this parasite, which



Figure 1: Photograph showing *enterobius vermicularis* adult worm crawling out of nose

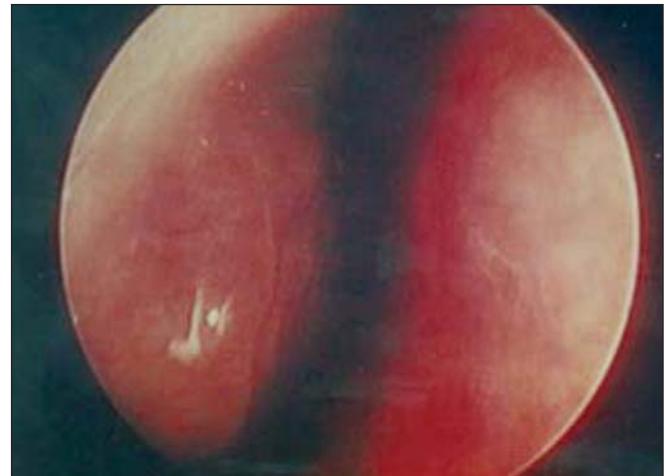


Figure 3: Endoscopic photograph of nasal mucosa



Figure 2: Adult worms of *enterobius vermicularis*



Figure 4: Eggs of *enterobius vermicularis* seen under x40 wet mount preparation

have been documented are conjunctival sac,^[2] vagina, uterus, fallopian tubes and epididymis.^[3] Chandrasoma et al^[4] have described the ectopic sites of enterobius vermicularis like anterior rectal wall peritonium of hernial sac and appendix. Nabulsi et al^[5] have described about the perinatal enterobius infection and management by albendazole. In the text book 'Manson's Tropical Disease' it is mentioned as 'occasionally enterobius vermicularis may be found in the female genital organs, rarely in the ear and nose'.^[6] It has been reported that the worm can invade the intestinal wall when there is a mucosal breach.^[4]

In our patient, we hypothesize that inoculation of the ova directly into the nasal cavity, its development in the nose and migration into the sinuses, further development there and subsequent periodic migration of the worms outside through the nose would be the probable mechanism, since stool examination and perineal swabs were negative for ova and adult worms. Hence it is advisable to examine the nasal mucosa and send the scrapings for microbiological examination in case of suspected allergic rhinitis.

We have treated the case with oral albendazole and eradication of the ova by boiling the linen, thereby preventing recurrence of the disease.

Summary

Allergic rhinitis due to enterobius vermicularis has not been

reported so far in medical literature. We managed the case by identifying the parasites from the material collected by the nasal endoscopy as well as the particles given by the patient herself and treated the case by albendazole with complete cure.

REFERENCES

1. Freedman DO, Klass J II, Howard BJ. Clinical and pathogenic microbiology.[d-2] St. Louis, Washington DC, Toronto: The C.V. Mosby Company 1994. p. 663-5.
2. Dutta LP, Kalita. Enterobius vermicularis in the human conjunctival sac. Ind J Ophthal 1976;24,1,34.
3. Kollias G, Kyriakopoulos M, Tiniakos G. Epidydimitis from enterobius vermicularis. Case Report. J Urol 1992;147:1114-6.
4. Chandrasoma PT, Mendis KN. Enterobius vermicularis in ectopic sites. Am J Trop Med Hyg 1977. p. 644.
5. Nabulsi M, Shahrah N, Akhalil. Perinatal enterobius vermicularis infection, Int J Gynaecol Obstet 1998;60:285-6.
6. Manson-Barb PH. Mansons's tropical diseases, Cassel and Company Ltd.; 1950. p. 988.

Address for Correspondence:

Dr. Vishnu Kaniyur,
'SWASTIKA',
Arya Samaj Road,
Mangalore - 575003,
Karnataka,
India

CT CISTERNOGRAPHY IN CEREBROSPINAL FLUID RHINORRHEA: COULD IT HAVE A THERAPEUTIC ROLE?

Naresh K. Panda, Ekambar C. E. Reddy, Rajiv J. Bapuraj*

ABSTRACT: Two cases of spontaneous cessation of cerebrospinal fluid (CSF) rhinorrhea following iohexol computerized tomographic (CT) cisternography are presented. This report contradicts the current thinking about conservative treatment in CSF rhinorrhea. We propose that iohexol CT cisternography may have a therapeutic role in the management of spontaneous CSF rhinorrhea.

Key Words: CSF rhinorrhea, CT cisternography

Cerebrospinal fluid (CSF) fistula with resultant rhinorrhea is caused by head trauma with skull base fracture. Only 10% of them are spontaneous fistulas, the majority being traumatic.^[1,2] There is a significant risk of meningitis with spontaneous leaks thus requiring urgent attention in the form of surgical intervention.^[3,4] Leaks that have persisted for more than

1 week generally do not close spontaneously and therefore surgical correction is imperative.^[5,6] Presented here are two cases of primary spontaneous CSF rhinorrhea who had cessation of rhinorrhea following iohexol computerized tomographic (CT) cisternography with no recurrence after 1 year of the procedure.

Departments of Otolaryngology and *Radiodiagnosis, Post Graduate Institute of Medical Education and Research, Chandigarh, India